ComTech
ASSOCIATES

March 14, 1996

EX PARTE

Mr. William Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: CC Docket No. 92-297

In the Matter of Rulemaking to Amend Part 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5 - 29.5 GHz Frequency Band to Reallocate the 29.5 - 30.0 GHz Frequency Band to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services.

Dear Mr. Caton:

ComTech Associates Incorporated ("ComTech") hereby submits an original and five copies of the following ex parte comments on the Third Notice and Proposed Rulemaking in the above-captioned proceeding ("Third Notice"). ComTech, a prospective Local Multipoint Distribution Service ("LMDS") provider based in Irving, Texas, wishes to supplement the record in this proceeding with respect to band plan issues that are of critical importance to the future success of the LMDS industry.

As we indicated in our August, 1995 Comments in the Third NPRM, ComTech is supportive of a quick resolution to the 28 GHz rulemaking. Now, some seven months later, it is apparent in retrospect that rapid closure was not to be. However, there is an opportunity now to finalize the 28 GHz band plan in a manner accommodating all interests. ComTech supports closure now--to facilitate the speedy licensing and deployment of LMDS as well as the GSO/FSS, NGSO/FSS and MSS services which will share the 28 GHz band.

Specifically, ComTech supports the band plan referred to as "Option 4 Prime" (Option 4'), and is categorically opposed to "Option 5," which would condemn LMDS to a non-competitive status in the multi-service broadband access market. While the total bandwidth allocated to LMDS under Option 4' is only 985 MHz and not the full 1000 MHz that we have previously supported, we believe the tradeoff of 15 MHz for rapid closure in the 28 GHz proceeding is a prudent one given the negative consequences of

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further delay in creating return on the capital at risk in our small business. The fact that we support an option that provides LMDS with less spectrum (985 MHz under Option 4') than the alternative (1000 MHz under Option 5) is telling -- Option 5 is not workable for LMDS.

With regard to Option 4', we offer the following observations:

- Option 4' provides a natural band split for outbound (hub-to-subscriber) and return (subscriber-to-hub) links. The 850 / 135 MHz split is consistent with ComTech service provisioning plans for multi-service LMDS.

- Although ComTech is not an LMDS supplier, our current understanding of equipment configurations indicates that this option will require minimal modification to existing LMDS antenna/downconverter designs that anticipate or accommodate a transmitter to facilitate two-way service by return links. This attribute of Option 4' is extremely attractive and necessary because it allows implementation of a full-service LMDS platform while minimizing technology risk.

- The Option 4' LMDS service rules governing the 135 MHz should be consistent with those supported by LMDS proponents in late 1995 for return links in the (then) 150 MHz to be shared with MSS feeder links (maximum +20 dBW/MHz EIRP and the associated Texas Instruments' proposed mask for off-boresight angles). We note that the combination of the peak EIRP and antenna mask should be replaced by a single "EIRP mask" to maximize flexibility in trading off peak power and the antenna pattern.

- The zone within which LMDS should be required to accept interference from MSS Feeder Link earth stations should be no larger than that proposed by the Commission in the Third NPRM (75 nautical mile radius), and preferably should be limited to a 40 kilometer radius in accordance with more recent and reasonable estimates of interference potential.

- The GSO/FSS operations in the 135 MHz to be shared with LMDS and MSS Feeder Uplinks should be limited to "GSO/FSS Gateways." Further, these proposed "Gateways" should be restricted to secondary status. The adoption of rules to allow Gateway operation within certain areas defined by population density is extremely risky. For example, ComTech envisions LMDS service in small towns which may be significantly displaced from other population centers such that the population density of these LMDS service areas, when averaged with their immediate surroundings, may appear artificially low. Additionally, any population density criterion would become generally untenable given real population distributions--which do not follow smooth gradients from high to low density. If the GSO/FSS Gateways are truly intended for low-density areas, there should be no problem placing them in intended areas on a secondary basis--there will be no LMDS there to interfere with.

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Option 5 is Unacceptable for the following reasons:

- The ability to cost-effectively provide two-way services with a viable bandwidth split between outbound and return links is precluded by the Option 5 band split which consists of three non-contiguous subbands for LMDS.

- Due to proposed prohibition of return links in the upper 150 MHz of the LMDS spectrum in Option 5 (29.1 - 29.25 GHz), the return links would be forced to the "middle" 150 MHz (28.45 - 28.6 GHz). This creates a filtering and signal processing problem that virtually every potential supplier to ComTech has characterized as fatal. The complexity of these functions in a subscriber downconverter to accommodate the Option 5 frequency plan is beyond mass-producible, consumer-cost solutions. Equally grave is the projection that any solution would render the top 150 MHz nearly useless--effectively cutting the LMDS allocation to a total of 850 MHz from 1000 MHz.

- The operation of return links in spectrum interleaved with spectrum for outbound services is inherently difficult. This is precisely why 800 MHz cellular allocations are based on duplex splits between base-to-mobile and mobile-to-base subbands. This is also precisely why satellite the uplink spectrum is paired with companion downlink spectrum -- 10,000 MHz away in the 18 GHz band.

- ComTech is familiar with satellite operations based on its involvement in satellite-based services. We completely disagree with any claim that the costs of operating satellite services over non-contiguous spectrum are similar to the costs of operating LMDS over non-contiguous spectrum. Not only are such representations untrue, it is also impossible to make a blanket statement about all non-contiguous plans--as noted above, Option 4' involves non-contiguous LMDS spectrum, but it does not embody the negative attributes of Option 5.

- GSO/FSS downlink receivers will be operated at 18 GHz--away from LMDS and in a band where design is easier than in the 28 GHz band. These GSO/FSS subscriber receivers will be exposed to out-of-band interference from sources which are in GSO. In contrast, under Option 5, LMDS will be exposed directly to "interference" from its own return link transmitters which are co-located with its receivers for outbound transmissions from the hub. There is no similarity between the interference scenario geometries for LMDS and GSO/FSS under Option 5.

- Option 5 allows for the full 1000 MHz for GSO/FSS in the 28 GHz band, while Option 4' expands this to 1010 MHz. Furthermore, in reality under either Option, GSO/FSS has companion downlink spectrum which at least doubles its allocation -- to over 2000 MHz total. Option 4' is better than Option 5 for both LMDS and GSO/FSS.

Summary

ComTech supports the Commission's efforts in this proceeding to accommodate all parties interested in the 28 Ghz band. However, LMDS has been ready for deployment in

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the U.S and is poised for deployment internationally where governments have recognized LMDS as a viable competitor to entrenched monopoly service providers. Where the benefits of a speedy resolution to this proceeding will accrue to consumers and entrepreneurs alike, we urge the Commission to end this lengthy proceeding by immediately finalizing a band plan acceptable to LMDS proponents and to hold auctions that will set free a vital national resource. The Commission could endlessly entertain supposed "improvements" to band plans and by doing so accommodate intentional delay tactics on the part of parties who expect a free ride from the American taxpayer. It is so clearly in the public interest, and the record in this proceeding, that LMDS deserves the spectrum allocation contemplated in the Third Notice or Option 4' that we urge the Commission to resolve this matter as quickly as possible.

Sincerely,

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V.P. of Finance

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